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## THE ECONOMIC IMPACT OF RAILROADS ON DENTON COUNTY, TEXAS

*by E. Dale Odom*

When Robert Fogel did his controversial study of the effects of railroads on general economic growth in the United States, he attacked the idea of the economic indispensability of the railroad. He concluded, however, that until 1890 railroads had been responsible for the equivalent of two years of growth in the gross national product. In other words, the United States would have been about where it was in 1888 if there had been no railroads and if certain expected transportation improvements had been made. Whether that is a small or a large amount of growth is open to interpretation. Fogel's work, although it has been questioned in detail, has had the effect of making general historians more careful in their assertions about the transforming effects of railroads.<sup>1</sup>

It may be that some other form of transportation would have elicited similar economic changes, but it is indisputable that railroads had a quick and powerful impact on patterns of agricultural and industrial production, urban growth, and the way people lived. To illustrate this impact, this paper will examine some economic effects of railroads on Denton County, Texas, mainly between the years, 1880 and 1920.

There is nothing unique about Denton County. It is a thirty-square mile county adjoining Dallas and Tarrant counties on the north, and only one county separates it from the Oklahoma border. Roughly the western half of Denton County lies in the geographical region known as the Grand Prairie of Texas, while a small portion on the east is part of the Blackland Prairie. The narrow Eastern Cross Timbers extend through the center and eastern side of the county. With good soil and annual average rainfall over thirty inches, the county has been a good general farming area for small grain, cotton, and livestock.

Anglo settlement began in the early 1840s as the result of a land grant to the W.S. Peters Company of Louisville, Kentucky. The county was created out of a part of Fannin County in 1846. It grew slowly at first because early settlers lacked water transportation, a requirement for extensive commercial agriculture. Thus, as in so much of the area west of the Mississippi River, farmers essentially were limited to subsistence production, and supplemented their income by sale of livestock that could transport itself to distant markets. The famous cattleman, John S. Chisum, a county rancher during the 1850s, drove cattle eastward as far as Vicksburg during the Civil War when he was an official cattle supplier for the Confederacy. Costs for goods not locally produced were high. For example, even in 1868, pine lumber bought in Jefferson, or at East Texas sawmills for \$.75 a thousand board feet, sold for \$7.00 a thousand in

Denton County. Much changed when railroads connected the county with the outside world. It was a general rule that in the 1870s and 1880s transportation costs were reduced to about one-tenth of what they had been after a railroad entered an area such as Denton County that did not have water transportation.<sup>2</sup>

Although there was much optimistic discussion, and even some surveying, before the Civil War, it was not until the 1870s that railroads began to have a significant economic impact on the people of Denton. By 1873 rails had reached Sherman, sixty miles, McKinney, thirty miles, and Dallas, forty miles, away. Afterwards rail transport affected freight costs into and out of the county. Furthermore, a railroad had entered Denton County by 1877. The Dallas and Wichita Railroad Company built a line that ended just southeast of Lewisville. Financial problems so plagued the company that the outlaw Sam Bass never robbed it because as he allegedly told his men, that if they did it would have to be on credit and that did not work very well in their line of business.

During a long pause in construction a thriving but temporary community grew up at the end of the Dallas and Wichita tracks in the low-lying wooded area southeast of Lewisville. Local residents called it "Stumpopolis" and in the Summer and Fall of 1877 dozens of wagons were often seen lined up there to ship wheat and cotton on the railroad.<sup>3</sup>

Denton's railroad era reached a new stage in 1881 when the city of Denton, in a way, got two railroads. The Texas and Pacific completed a line from Texarkana through Sherman and Denton to Fort Worth — the first train reached the city on April 1. The Missouri, Kansas, and Texas, better known as the Katy Railroad, acquired the Dallas and Wichita, which had been completed to Denton, and since Jay Gould owned interests in both the Texas and Pacific and the Katy, it was easy to make an agreement for the Katy to use the Texas and Pacific tracks from Denton to Sherman. Denton then had connections with both Dallas and Fort Worth, but only one track, used by both railroad corporations, ran northeastward to Sherman. Five years later, in 1886, the Gulf, Colorado and Santa Fe, connecting Fort Worth to Oklahoma City, built across the western part of the county, missing the city of Denton. From Justin on the south to Sanger on the north, this line ran across the prairie and created the wheat belt of Denton County. In spite of much discussion and booster enthusiasm, only two other short stretches of track were ever built in Denton County; both were built after 1900 and neither had a large impact.<sup>4</sup>

As is usually the case, several conceptual problems had to be dealt with in fashioning this paper, and perhaps some of them need to be made explicit. It would hardly be productive to examine only the immediate economic effect of railways, yet taking a longer term view runs a definite risk of attributing economic changes to the roads that may have been brought about by something else. Furthermore, Denton County is a limited area which cannot be separated from surrounding counties and is a political

rather than an economic entity. For example, it is conceivable that railroads might never have entered Denton County, but if they ran through an adjoining one then there would still have been an economic impact. It would be convenient if there was a comparable county which did not acquire railroads until thirty, or perhaps fifty, years later. Its economic development could be compared to that of Denton to better determine the economic effects of railway transportation on Denton. Pitfalls exist, therefore, that make such efforts as this a possible victim of several historical fallacies. Nevertheless, historians usually do not throw up their hands and quit because of difficulties. Consequently, this paper will concentrate on some of the effects of railroads on population and urban growth and on agricultural and industrial production in Denton County, mainly in the period from 1880 to 1920.

When railroads entered the county it was decidedly rural but was growing rapidly in population and agricultural production. In fact, the greatest decade of population growth in the history of Denton County for over a century, both in numbers and percentages, occurred in the decade before railways came. Between 1870 and 1880, population of the county more than doubled from 7,251 to 18,143. The town of Denton, the largest in the county, increased its residents from 361 to 1194 in the same ten years.<sup>5</sup> This growth in the 1870s primarily was due to good farming opportunities, and may have been due partly to anticipation of the arrival of railroads.

It is certainly true that money could be made in farming in the early 1870s. Due to the low cost of land and production, it was possible for a family to pay for a farm in one to three years. *The Texas Almanac* (1872) cites one of many examples that could be given of the profitability of farming in Denton County in 1869. In January of that year a man named Brumby bought 210 acres of land for \$1500. His farm had forty-five acres in cultivation. He and his two sons farmed it, although they hired labor that cost \$140. On January 1, 1870, after reserving a year's supplies, the value of products sold totaled \$2,017.50. Most of the income, \$1600, was from the sale of cotton. These figures do not include any increase in the value of Brumby's livestock, which may have amounted to as much as \$500.<sup>6</sup> Other farmers may not have done as well as Brumby, but farming in Denton County was quite profitable, and appears to be the main reason why so many immigrants came to the county in the 1870s.

At the time railroads first began to affect the county, industry was made up of a few small firms that completed the economic independence of local residents. Industry was light and mobile with a comparatively small investment and modest profits. The census of 1870 reveals an average investment per establishment of \$2,200, with three and one-half workers, an average annual output of \$4,800, and a labor and material cost of \$3360. With fixed and variable costs subtracted, there remained an average annual profit of approximately \$1,200. When this average is compared to

the farm profits noted above it is easy to see why agriculture was growing more rapidly than industry in Texas in the 1870s. In Denton County, between 1870 and 1880, total manufacturing production increased in value from \$34,100 to \$104,344, which was produced by twenty-two firms with a total of sixty-four employees, in the latter year.<sup>7</sup> Denton County's manufacturing statistics closely resemble the state average.

In the decade after railroads came to Denton, from 1880 to 1890, population growth of the county slowed, totaling only 3,146, compared to almost 11,000 the decade before. More than half of the increase, unlike the previous decade, went to the towns rather than the farms. The City of Denton gained 1,364, almost half the increase for the decade. The pace of population growth expanded again in the 1890s with an increase of 7,070 persons, more than twice as many people as were added in the previous ten years. Like the growth in the 1870s, this growth was again mostly rural and was due largely to the Santa Fe's opening of the prairie to wheat and cotton farmers after 1887. After 1900, however, with both Cross Timbers and prairies filled with farmers, and towns growing slowly, the population growth slowed markedly. The county had 28,319 people in 1900, and only 33,658 in 1940, an increase of 5,339 in four decades, or about half as much increase as in the decade of the 1870s alone. Growth increased in tempo again after World War II, with Denton County's population increasing to 47,432 in 1960. Explosive growth followed; the county's population roughly tripled in the next twenty years, reaching 143,106 in 1980.<sup>8</sup>

By the middle of the twentieth century the rural population of the county was smaller than when railroads first appeared on the scene. In 1880, about 16,000, and in 1950 slightly over 13,000 people, lived outside the city limits of incorporated towns in Denton County.<sup>9</sup> Railroads were not responsible for this change — the general rural to urban shift was — but it is clear that railroads determined the pattern of town growth that existed for a century. For example, at the beginning of the 1970s, with the exception of Little Elm, there was not one town in the county of any size that was not on one of the railroads completed in the 1880s. Pilot Point, Aubrey, Denton, Argyle, and Roanoke on the Texas and Pacific, Lewisville and Lake Dallas on the Katy, and Justin, Ponder, Krum, and Sanger on the Santa Fe, were the only communities of any size in 1970. Also, railroad placement decreed that some towns and communities in Denton County, such as Bolivar, Elizabethtown, Stoney, and Green Valley, would either never develop beyond village size or would decline and virtually disappear because the railroad missed them.

Denton County manufacturing growth generally kept pace with population and urban increase after 1880. Thirty-eight firms produced products valued at \$397,037 in 1890, and in 1900, 129 firms turned over \$934,638 in production. Grain mills accounted for most of the establishments and most of the product. After 1900, as might be expected,

the number of manufacturing firms declined rapidly — from 129 in 1900 to forty-two in 1920 — but value of their output continued upward to over \$3,000,000 in the latter year.<sup>10</sup>

While it would be incorrect to say that railroads had a negative effect on urban and industrial growth in Denton County, it has been suggested that the lack of railways prevented Denton from competing with Dallas and Fort Worth. This was not because of roads that were built but because of trails that were not laid. Denton acquired a railroad outlet in 1881 but never a railroad network. In other words, Denton “became a railroad town but not a railroad center.”<sup>11</sup> From Farmersville on the east to Bridgeport on the west, about forty miles on either side of Denton, seven railroads eventually ran north and south, but Denton had no east-west connections. Denton was almost eighty miles by rail from McKinney, thirty miles away, almost seventy miles by rail to Decatur, also thirty miles away, and seventy miles by rail to Krum, which was eight miles from Denton. Obviously, until rubber-tired transportation began to alter the picture, wholesale houses and industrial firms that planned to do much shipping preferred to locate to the south in Fort Worth or Dallas or to the north in Gainesville or Sherman. Those cities had east-west as well as north-south rail connections.

While no one can say with certainty how much difference it might have made had Denton obtained connections to the east and west, the fact that they did not have them undoubtedly hampered city boosters in attracting wholesale houses to the town. Lack of east-west connections may not have hurt manufacturing growth very much. Only if Denton, instead of Dallas, had been the first major objective of the Texas and Pacific Railroad when it arrived from Marshall in the early 1870s, and if a three-year pause in construction after 1873 had been in Denton, as it was in the city to the south, would a railroad network have encouraged the growth of Denton as a large manufacturing and population center. A list of speculations about what might have been the case had Denton received the railway impetus that Dallas received can be constructed. For example, it might be the Denton Cowboys football team playing in Krum rather than the Dallas Cowboys playing in Irving; it might be the Denton-Decatur International Airport on the North Texas prairies, and Denton might be the hub of interstate highways 35, 45, 30 and 20. To be a bit more serious, the lack of economic opportunity in wholesale and industrial business may have been important in motivating Denton's leaders to acquire state-supported higher education institutions such as Texas Woman's University and the University of North Texas. If so, lack of a railway system had a strong impact because these institutions clearly affected Denton and Denton County in a fundamental way.

The actual effect of railroads on industrial development was minimal, but railway impact on agriculture was rapid and dramatic. Generally, the

reduce the production of subsistence crops such as corn and vegetables, and cut the number of cattle and hogs in the county. Cotton production was affected less dramatically than wheat because cotton had been better able to stand the cost of wagon transportation prior to the availability of rail transport. A wagon load of four to six bales of cotton, worth from \$200 to \$350, could stand transporting a considerable distance; in fact, during the 1860s county farmers hauled cotton all the way to Galveston. In contrast, a wagon load of wheat worth \$50 to \$60 could not be transported more than a few miles before the cost exceeded the value of the cargo. Railways did boost cotton production as well as wheat. Denton County cotton acreage increased steadily from 29,785 acres in 1880 to 41,190 in 1890, and 62,717 in 1900. Cotton peaked in acreage at 115,078 in 1920, then declined rapidly in the following years. Railroad transportation was crucial in causing the large increase before 1920.<sup>12</sup>

The construction of the Gulf, Colorado, and Sante Fe Railroad in 1886 clearly created the wheat belt of Denton County. The rich black prairie soil yielded a bounty of golden grain for the iron horse to carry away. In 1880, cattlemen dominated the prairie with 49,008 beef cows counted in the county and 58,855 cattle of all kinds. In the same year only 12,103 acres of county land was devoted to wheat. By 1920, only 12,123 beef cattle grazed in the county, while in only twenty years wheat acreage had increased by over 80,000 acres. As early as 1900, 92,800 acres were in wheat, and acreage peaked in 1920 at 97,192. From 1890 to 1920, Denton County ranked either first or second behind Collin County as the leading wheat producing county in Texas.<sup>13</sup> By 1900 Krum was reputed to be the largest inland wagon wheat market in the United States. It had several "track" buyers for large mills and elevators, three large grain storage houses, and four grain elevator companies by 1905, and Krum was a village of about 300 people. By 1920 farmers grew wheat and cotton right up to the bar ditches flanking the mud lanes that criss-crossed the prairies of western Denton County. Almost ninety percent of county land was in cultivation; in 1880 only 49.1 percent was cultivated.<sup>14</sup>

While the money value of Denton County farm production quadrupled from 1880 to 1910, production of subsistence crops began to decline proportionately and then absolutely, a reflection of the dramatic cheapening of the market cost of purchased necessities due to reduced railroad transportation rates. For example, corn acreage moved up from 35,326 in 1880 to 64,423 in 1900, but quickly dropped to 36,035 in 1920. Hogs, butter, and some other subsistence products followed closely the same proportionate pattern of increase and then decline.<sup>15</sup>

Railroads were not indispensable to economic growth in Denton County. They did, however, play a crucial role in shaping the pattern of urban and agricultural growth for over half a century. If there had been no railroad technology in the nineteenth century, then a Trinity River canal would likely have been built. The Elm Fork of the Trinity cuts through

the Cross Timbers of Denton County and during the late 1860s there was discussion of making the river navigable as far north as Gainesville.<sup>16</sup> With water transportation available, cotton and wheat production would have flourished as they did, but of course the pattern of town growth would have been very different. There was nothing particularly novel or unusual about the railroad impact on Denton County, but it does clearly indicate the powerful influence railroads had in shaping economic development and influencing how people lived, even if iron rails and locomotives were not an absolute prerequisite for growth.

### NOTES

<sup>1</sup>Robert W. Fogel, *Railroads and American Economic Growth, Essays in Econometric History* (Baltimore, 1964), pp. 10-12.

<sup>2</sup>Harwood Hinton, "John Simpson Chisum," *New Mexico Historical Review* 31 (July 1956), p. 186; unpublished memoirs of Dr. W.S. Kirkpatrick, in the Archives, University of North Texas Library; Ray Ginger, *Age of Excess*, 2nd ed. (New York, 1975), p. 22. Chisum never drove cattle northward from Denton County and his name has nothing to do with the famous Chisholm Trail across Oklahoma to the Kansas railheads.

<sup>3</sup>C.A. Bridges, *History of Denton, Texas* (Waco, 1978), pp. 133, 148-149, 169-170; Wayne Gard, *Sam Bass* (Boston, 1936), p. 190; *New Orleans Daily Picayune*, August 19, 1877.

<sup>4</sup>Bridges, *History of Denton*, pp. 170-171.

<sup>5</sup>*Compendium of the Tenth Census of the United States*, 1880, Part 1, p. 52.

<sup>6</sup>S.S. McKay, "Economic Conditions in Texas in the 1870's," *West Texas Historical Association Year Book* 15 (1939), pp. 92-93, citing *The Texas Almanac*, 1872, pp. 32, 77.

<sup>7</sup>John S. Spratt, *The Road to Spindletop* (Dallas, 1955), pp. 249-250; *Tenth Census of the United States*, 1880, *Manufactures*, II, p. 177.

<sup>8</sup>*Compendium of the Tenth Census of the United States*, 1880, Part 1, p. 52; *Twelfth Census of the United States*, 1900, *Population*, Vol. I, Part 1, p. 41; *Denton Record Chronicle*, October 29, 1981.

<sup>9</sup>Bridges, *History of Denton*, p. 250.

<sup>10</sup>*Fourteenth Census of the United States*, 1920, IX, p. 1449.

<sup>11</sup>Bridges, *History of Denton*, p. 172.

<sup>12</sup>Spratt, *The Road to Spindletop*, p. 63; Kirkpatrick Memoirs; *Fourteenth Census of the United States*, 1920, Vol. VI, Part 2, pp. 720-721.

<sup>13</sup>*Fourteenth Census of the United States*, 1920, Vol. VI, Part 2, p. 693, pp. 720-721; Mary Jo Cowling, *Geography of Denton County* (Dallas, 1936), pp. 25-26.

<sup>14</sup>Della I. Davis, *Krum, Texas* (Krum, 1976), p. 29; *Fourteenth Census of the United States*, 1920, Vol. VI, Part 2, p. 669; *Tenth Census of the United States*, 1880, III, p. 135.

<sup>15</sup>*Thirteenth Census of the United States*, 1910, VII, pp. 682-683; *Tenth Census of the United States*, 1880, III, p. 135; *Fourteenth Census of the United States*, 1920, Vol. VI, Part 2, pp. 720-721.

<sup>16</sup>*Denton, Monitor*, October 8, 1868.